

Order **Trichoptera** Kirby, 1813¹ (2 suborders)^{2,3,4}

Suborder **Annulipalpia** Martynov, 1924 (3 superfamilies)⁵

Superfamily **Philopotamoidea** Stephens, 1829 (2 families)

Family **Philopotamidae** Stephens, 1829 (25 genera, 1194 species, of which †6/26)⁶

Family **Stenopsychidae** Martynov, 1924 (3 genera, 95 species, †0/1)

Superfamily **Psychomyioidea** Walker, 1852 (9 families, of which †2)⁷

Family **Dipseudopsidae** Ulmer, 1904 (5 genera, 120 species, of which †0/6)

Family †**Dysoneuridae** Sukatsheva, 1968 (†3 genera, †6 species)

Family **Ecnomidae** Ulmer, 1903 (10 genera, 483 species, of which †1/14)

Family †**Electralbertidae** Botosaneanu & Wichard, 1983 (†1 genus, †1 species)

Family **Kambaitipsychidae** Malicky, 1992 (1 genus, 2 species)

Family **Polycentropodidae** Ulmer, 1903 (26 genera, 901 species, of which †10/95)

Family **Pseudoneureclipsidae** Ulmer, 1951 (2 genera, 120 species, of which †0/4)

Family **Psychomyiidae** Walker, 1852 (13 genera, 530 species, of which †2/8)

Family **Xiphocentronidae** Ross, 1949 (7 genera, 173 species, of which †0/1)

Superfamily **Hydropsychoidea** Curtis, 1835 (1 family)

Family **Hydropsychidae** Curtis, 1835 (39 genera, 1820 species, of which †2/12)

Suborder **Integripalpia** Martynov 1924 (2 infraorders, 8 superfamilies)⁸

Family †**Ningxiapsychidae** Hong & Li, 2004 (†1 genus, †1 species)

Family †**Vitimotauliidae** Sukatsheva, 1968 (†3 genera, †18 species)

Superfamily **Glossosomatoidea** Wallengren, 1891 (1 family)

Family **Glossosomatidae** Wallengren, 1891 (23 genera, 689 species, of which †1/7)

Superfamily **Hydroptiloidea** Stephens, 1836 (2 families)

Family **Hydroptilidae** Stephens, 1836 (75 genera, 2141 species, of which †3/17)

Family **Ptilocolepidae** Martynov, 1913 (2 genera, 18 species, of which †0/2)

Superfamily **Rhyacophiloidea** Stephens, 1836 (2 families)

Family **Hydrobiosidae** Ulmer, 1905 (52 genera, 410 species, of which †2/3)

Family **Rhyacophilidae** Stephens, 1836 (6 genera, 783 species, of which †1/9)

Infraorder **Brevitentoria** Weaver, 1984 (3 superfamilies)⁹

Superfamily **Leptoceroidea** Leach, 1815 (7 families)

1. By RALPH W. HOLZENTHAL, JOHN C. MORSE & KARL M. KJER (for full contact details, see the list after **References**). The title of this contribution should be cited as “Order Trichoptera Kirby, 1813. In: Zhang, Z.-Q. (Ed.) Animal biodiversity: An outline of higher-level classification and survey of taxonomic richness”.
2. Extant and readily classified fossil families only (fossil families identified with “†”). The superorder Amphiesmenoptera Hennig, 1969, stem group Protomeropina Tillyard, 1926 (5 fossil families with 13 genera and 30 species) and fossil families Necrotauliidae Handlirsch, 1906 (9 genera, 28 species) and Prorhyacophilidae Riek, 1955 (1 genus, 2 species) are not included in Trichoptera by us. Also, 10 genera and 244 species are ichnotaxa, available names in Trichoptera for the fossilized work of caddisfly larvae (i.e., fossilized caddisfly cases), not assigned to any more-inclusive taxa. Furthermore, 3 fossil genera and 9 fossil species are available names for substitution fossils that have not been assigned to more-inclusive taxa. In total, the order Trichoptera as here defined includes 56 families (49 mostly extant, 7 entirely fossil), 688 genera (601 mostly extant, 85 entirely fossil, 2 *nomina dubia*), and 14,999 species (14,291 extant, 608 fossil, 100 *nomina dubia*). For a review of fossil Trichoptera taxa see Ulmer (1912), Ivanov & Sukatcheva (2002), Wichard (2007) and Morse (2011). For a general review of the diversity, distribution, biology, and phylogeny of the order see Holzenthal et al. (2007b), de Moor & Ivanov (2008), Wiggins (2004), and Morse (1997).
3. Unless otherwise indicated, the classification follows Morse (2011). Diversity estimates are from Morse (unpublished data) and include extant and fossil genera and species as well as species *nomina dubia* (of uncertain identity).
4. There is general consensus that the order contains at least 2 monophyletic suborders, Annulipalpia, the retreat-making caddisflies, and the Integripalpia, the case-making caddisflies. The monophyly of a 3rd suborder, Spicipalpia Weaver, 1984, the cocoon-making caddisflies (including Rhyacophilidae, Hydrobiosidae, Glossosomatidae, Hydroptilidae, and Ptilocolepidae) is equivocal; morphological evidence of its monophyly is spurious (Ivanov 1997, 2002) and molecular studies have failed to recover a monophyletic Spicipalpia, although support for paraphyly is weak (Kjer et al. 2001, Kjer et al. 2002, Holzenthal et al. 2007a).
5. = Hydropsychina Rhodendorf, 1977 as used by Ivanov (2002). Ivanov (2002) included Rhyacophiloidea within Hydropsychina.
6. Throughout the list, †x/y indicates x genera and y species are fossil among the totals (e.g., for Philopotamidae 25 total genera, 1194 total species, of which 6 genera and 26 species are fossil).
7. A monophyletic Psychomyioidea was recognized by Ivanov (2002) on morphological evidence; its monophyly and sister-group relationship to Hydropsychidae has been consistently recovered in molecular studies, with strong bootstrap support (Holzenthal et al. 2007a). For recent taxonomic changes within Psychomyioidea see Chamorro & Holzenthal (2011).
8. = Phryganeina Rohdendorf, 1977 as used by Ivanov (2002). In molecular studies, the “spicipalpian” superfamilies Rhyacophiloidea, Glossosomatoidea, and Hydroptiloidea are consistently recovered within a strongly supported, monophyletic Integripalpia, reflecting the earlier classification of Ross (1967).
9. Infraorders Brevitentoria and Plenitentoria are strongly supported as monophyletic clades in molecular analyses (e.g., Holzenthal et al. 2007a). However, relationships among superfamilies and families within these clades generally remain unresolved.

- Family **Atriplectididae** Neboiss, 1977 (4 genera, 6 species)
- Family **Calamoceratidae** Ulmer, 1905 (10 genera, 187 species, of which †2/5)
- Family **Molannidae** Wallengren, 1891 (2 genera, 45 species, of which †0/4)
- Family **Leptoceridae** Leach, 1815 (52 genera, 2037 species, of which †4/17)
- Family **Limnacentropodidae** Tsuda, 1942 (1 genus, 15 species)
- Family **Odontoceridae** Wallengren, 1891 (18 genera, 160 species, of which †3/6)
- Family **Philorheithridae** Mosely, 1936 (9 genera, 30 species)
- Superfamily **Sericostomatoidea** Stephens, 1836 (12 families)
- Family **Anomalopsychidae** Flint, 1981 (2 genera, 27 species)
- Family **Antipodoeciidae** Ross, 1967 (1 genus, 1 species)
- Family **Barbarochthonidae** Scott, 1985 (1 genus, 1 species)
- Family **Beraeidae** Wallengren, 1891 (7 genera, 59 species, of which †0/2)
- Family **Calocidae** Ross, 1967 (7 genera, 23 species)
- Family **Chathamiidae** Tillyard, 1925 (2 genera, 5 species)
- Family **Conoesucidae** Ross, 1967 (11 genera, 43 species)
- Family **Helicophidae** Mosely, 1953 (9 genera, 44 species)
- Family **Helicopsychidae** Ulmer, 1906 (10 genera, 283 species, of which †8/14)
- Family **Hydrosalpingidae** Scott, 1985 (1 genus, 1 species)
- Family **Petrothrincidae** Scott, 1985 (1 genus, 14 species)
- Family **Sericostomatidae** Stephens, 1836 (23 genera, 111 species, of which †4/4)
- Superfamily **Tasimioidea** Riek, 1968 (1 family)
- Family **Tasimiidae** Riek, 1968 (4 genera, 9 species)
- Infraorder **Plenitentoria** Weaver, 1984 (2 superfamilies)
- Family **Kokiriidae** McFarlane, 1964 (6 genera, 15 species)¹⁰
- Superfamily **Limnephiloidea** Kolenati, 1848 (7 families, of which †1)
- Family **Apataniidae** Wallengren, 1886 (21 genera, 203 species)
- Family **Goeridae** Ulmer, 1903 (11 genera, 184 species, of which †0/4)
- Family **Limnephilidae** Kolenati, 1848 (100 genera, 884 species, of which †1/4)
- Family **Rossianidae** Gall, 1996 (2 genera, 2 species)
- Family †**Taymyrelectronidae** Botosaneanu & Wichard, 1983 (†1 genus, †1 species)
- Family **Thremmatidae** Martynov, 1935 (3 genera, 52 species)
- Family **Uenoidae** Iwata, 1927 (4 genera, 31 species)
- Superfamily **Phryganeoidae** Leach, 1815 (9 families, of which †2)
- Family †**Baissoferidae** Sukatsheva, 1968 (†1 genus, †4 species)
- Family **Brachycentridae** Ulmer, 1903 (8 genera, 113 species, of which †1/2)
- Family †**Kalophryganeidae** Haupt, 1956 (†1 genus, †1 species)
- Family **Lepidostomatidae** Ulmer, 1903 (11 genera, 483 species, of which †4/12)
- Family **Oeconesidae** Tillyard, 1921 (6 genera, 18 species)
- Family **Phryganeidae** Leach, 1815 (21 genera, 120 species, of which †4/36)
- Family **Phryganopsychidae** Wiggins, 1959 (1 genus, 4 species)
- Family **Pisuliidae** Ross, 1967 (2 genera, 19 species)
- Family **Plectrotarsidae** Mosely, 1953 (4 genera, 6 species, of which †1/1)

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10. Holzenthal *et al.* (2007b) included Kokiriidae in Plenitentoria based on molecular evidence (Holzenthal *et al.* 2007a), but without assignment to a superfamily.

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